6 Laws of Trauma & 7 Deadly Sins of Trauma PI

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The First Law of Trauma

- The First Law of Trauma: Any irregularity in a trauma patient is due to trauma, no matter how unlikely it may seem.

The possibility of trauma ALWAYS comes first! It is your job to rule it out. Only consider non-traumatic problems as a last resort.

First Law of Trauma Examples

- 34 year old male, driver involved in a head on collision, supposedly "restrained", unable to walk on scene. C/O bilateral knee pain and rt. side chest pain. EMS performed EKG which showed ST elevation. At the hospital the provider proceeded to treat the patient for an MI, giving nitroglycerin and aspirin. Left chest was needle decompressed because the provider did not hear breath sounds, however, there was no other clinical findings/supporting evidence of a tension pneumothorax
- Final diagnoses: cardiac/pulmonary contusions, left rib fracture, bilateral tibial fractures.

Examples:

- An elderly patient who crashes his car and presents with arrhythmias and chest pain is not having a MI. Nor does he need a trip to the cath lab
- A spot in the liver after any blunt trauma is not a cyst or hemangioma; it is a laceration until proven otherwise
- A patient found at the bottom of stairs with blood in their head did not have a hemorrhagic stroke and then fall down

Second Law of Trauma

- The Second Law of Trauma: Your trauma patient is bleeding to death until you prove otherwise
- Always assume that there is a source of hemorrhage somewhere that just has not been discovered yet. There can be no rest until you prove that the source *does not exist*

Second Law of Trauma

Sites of Hemorrhage

External.

- Extremity injury (most common cause of massive external blood loss), scalp, and torso wounds.
- Usually associated with an open fracture or amputation.

Internal.

- Chest, abdomen, pelvis, and closed extremity fractures
- High mortality if the casualty is not expeditiously transported and salvage surgical procedures performed.
- Controlled (hypotensive) resuscitation should be implemented

Internal Torso Bleeding Requires Surgical Control

Second Law of Trauma

- Different strategies (wound closure, packing, pressure, pharmacological agents) alone or in combination will provide effective hemorrhage control
  - IT Clamp
  - Hemostatic Agents
  - Extremity Tourniquets & Junctional Tourniquets
  - Blood products
  - TXA
  - Operating Room

Bleeding is the leading cause of preventable death in all types of traumatic injuries

(Kauvar, D. et al, Impact of Hemorrhage on Trauma Outcome, J of Trauma; 2006; 60:s3-s11)

Third Law of Trauma

- Third Law of Trauma: The only place an unstable trauma patient can go is to the OR
  - By definition, an unstable trauma patient is bleeding to death until proven otherwise (Second Law, remember!?)
- Radiation cannot fix that. Neither can hanging out in the ED/Trauma resuscitation room unless the blood is spraying you in the face.
- Consider early transfer and DO NOT delay for diagnostic procedures

Fourth Law of Trauma

- Fourth Law of Trauma: Even awake, alert, and stable patients die.
- Awake and alert patients fool us; fake us out. Somehow we equate the ability to interact and talk intelligently with being fine and not ready to die. Don't get suckered! Believe your exam and not what the patient thinks they are telling you.

Fourth Law of Trauma Example

- 19 year old male, stabbed in right axilla. He's awake, talking and very friendly. He met trauma activation criteria, so full evaluation is in effect. Lines in, blood drawn, clothes off. He keeps asking if all this is really necessary.
- Then on FAST exam, your provider notices a pericardial stripe which looks like liquid/blood mixture. But vital signs remain normal, the patient appears fine.
- Next Steps?

Fifth Law of Trauma

- Fifth Law of Trauma: Pediatric patients—a previously healthy child who presents critically ill in arrest or near-arrest, is a victim of child abuse until proven otherwise.
- It's so easy to go down the sepsis pathway with sick kids, especially those that can't talk yet.
  - Healthy children tend to stay healthy and don't easily get sick to the point of physiologic collapse.

Fifth Law of Trauma

- In the ED, ask pointed questions about the circumstances leading up to the event
- Do a full body examination
- What you hear and what you see may drastically alter how you evaluate the patient and may save their life

Sixth Law of Trauma

- Sixth Law of Trauma: Always have multiple eyes look at an image
- A CT or x-rays are ordered on a patient and the result comes back via EMR and the summary at the bottom of the report shows no abnormal findings are listed.
- Saying something is not abnormal does not mean that it is normal!

Sixth Law of Trauma

- Sometimes the radiologist misses key findings on the image. Sometimes they see them and make note of them in the body of a report, but they don't get the clinical significance and don't mention it on the summary (which is what a lot of busy providers only look at)
- Always pull up the actual image and look because you are there with the patient and have the full clinical picture, so you may appreciate findings the radiologist may not.

Trauma PI: The 7 Deadly Sins Countdown

Trauma PI is a demanding system that is designed to ensure high quality care of trauma patients.

And remember this process applies to all phases of care from prehospital to post-discharge

Sin #7: No cooperation between TC & TMD

- These two people must work very closely together for a trauma program to function efficiently
- Regular meetings are essential to review and process the various issues needing addressed
- The TMD must deal with any provider related items such as counseling, verbal discussions, memos and letters
- The TC deals with items involving nursing and other personnel

Sin #6: No Cooperation From Other Hospital Services

- A case is sent out to another committee or department for review but drops through the cracks and several months go by before you remember it. By now the details of the case are forgotten or fuzzy
- Create the expectation of quick turnaround and start nagging
- Escalate to your TMD if not getting any response or in some cases escalate to administration

Sin #5: Poor Record Organization

- All PI activity and documentation pertaining to a specific patient needs to be organized in one location (paper or electronic). Not spread over several binders/locations
- A similar folder is recommended for each system issue that involves multiple patients
- During a site review, be sure to include the folder of information with each of the patient charts that are inspected by reviewers
- Make sure several people in the trauma program understand the organization system in case a key person gets sick or leaves

Sin #4: Superficial Peer Review Discussions

- The minutes from peer-review do not reflect any in-depth discussion of PI issues.
  - There are 2 possible reasons:
    1. There wasn't any meaningful discussion
    2. The documentation just wasn't that good
- The discussion must include a summary of the case, identification of the significant quality issues, a description of what will be done to avoid the problem in the future, and who is responsible

Sin #3: Poor Peer Review Meeting Minutes

- Sometimes there is robust discussion on an issue but the minutes don't reflect it
- This may be due to a concern about discoverability by the public or outside council
- MOST frequently happens because the person charged with documenting the minutes is not very good at it.
  - Minutes need not mention specific names, but do need to detail the gist of any discussion, including specific points of concern and remedies. Most will run several paragraphs long; a single brief one just won't do

MCA: 50-6-415

- **50-6-415. Confidentiality.** (1) Data in a health care facility's hospital trauma register and reports developed from that data pertaining to quality of trauma care may be given by the facility only to:
  (a) the facility's peer review committee;
  (b) the regional trauma care advisory committee of the region in which the facility is located;
  (c) the trauma care committee; or
  (d) the department.
  (2) Data in the state trauma register and hospital trauma registers is not subject to discovery in a civil action and may not be introduced into evidence in a judicial or administrative proceeding.
  (3) Data and reports concerning peer review, quality improvement, or the quality of the trauma care provided by a health care facility or a health care provider that are produced by a regional trauma care advisory committee or the trauma care committee or provided by a health care facility to a regional trauma care advisory committee or the trauma care committee, as well as the proceedings of those committees concerning peer review and quality improvement, are not subject to discovery in a civil action and may not be introduced into evidence in a judicial or administrative proceeding.
  (6) Information in a department record or report that is used to evaluate and improve the quality of emergency medical service and trauma care by a health care facility or emergency medical service is not subject to discovery and may not be introduced in evidence in a judicial or administrative proceeding.
  (8) A standard or protocol adopted by the department pursuant to this part may not be used to demonstrate negligence or lack of negligence by a health care provider or health care facility to whom the standard or protocol applies.

Sin #2: Repeat Offenses

- The same problem keeps coming up again and again.
- This usually happens because the problem was never really solved in the first place.

Sin #1: No Loop Closure

- A PI Program basically:
  - Identifies the problems of any type
  - Requires someone to come up with potential solutions
  - Applies these solutions
  - Monitors the results

This is a cycle since the first solution may only partially solve the problem. The initial solution may need to be tweaked or totally changed. The loop continues until a reasonable result has been achieved

Loop Closure

Loop closure is really just two things:

1. Achievement of the best possible resolution of the initial problem; and
2. Documentation of the process
   - When most people talk about loop closure, they are usually referring to the documentation part.
   - Typical materials include meeting minutes, registry reports, personnel letters, email messages and protocols

Peer-Related Loop Closure

- Typically involves a single trauma professional (most cases this is a provider, but may be a nurse or other professional, as well)
- Issues are most often related to care delivered to a single patient
- Can identify a peer related issue in number of ways:
  - PI Filter- delay to bedside for trauma activation by provider
  - Complication- surgical site infection
  - Resuscitation review (video)- nonsterile insertion of urinary catheter by a nurse
  - Word of mouth- "Geez, it took forever to get Dr. Smith to order blood from the blood bank!"

Peer-Related Loop Closure

- Once identified, a "paper trail" must be started that documents the specific issue and details how it was discovered. The key is that progress can be tracked as long as the issue is "open"
- Next, determine how the particular issue needs to be resolved.
  - Physician/provider issues: peer review meeting, M&M conference, one-on-one with TMD
  - Nursing: meeting with nurse manager, education

Peer-Related Loop Closure

- Once the specific provider has been "re-educated", final documentation must be prepared.
  - Portion of meeting minutes or a letter/email message detailing specifics of discussion.

- All documentation collected, from opening of the PI issue to closure, must be kept in a folder associated with this patient
- An entry should also be made in the credentialing file for the provider so these items can be addressed at annual reviews

System Issue Loop Closure

- Tend to involve multiple patients
- More difficult to identify---usually need a pattern to emerge to detect a problem
  - Registry reports
- Harder to fix because they require a multi-faceted problem solving approach.
  - New protocol or practice guidelines
  - Monitoring use/compliance
  - Regular reports back to trauma committee

System Issue Loop Closure

- Since this problem involves many patients, a folder attached to one single patient won't work.
- Here's what needs to be included in this folder:
  - Minutes from first meeting where the discussion recognizes the problem
  - Registry reports showing increasing incidence of the problem
  - New protocols, scorecards, tracking tools
  - Committee minutes showing approval of protocols
  - Registry reports showing decrease incidence & any follow-up reports for spot monitoring

Which is it?

- When is a peer issue really a system issue?
- Most PI issues seem to be something done (or not done) by an individual, but that doesn't mean that the issue is a "peer-related" issue
- Always assume that people are doing their best to provide excellent care to their patients. Look closely for possible system problems that are keeping them from doing just that. Then come up with some creative solutions

Questions?